Title: Clinicians' views of the training, use and maintenance of phonetic transcription in speech and language therapy

Running Head: Phonetic transcription in SLT

Keywords: Phonetic transcription, practice, training, teaching, therapy

Authors:

Declaration of interest.
The first author has provided phonetic transcription workshops, of the type suggested in this article, to practicing therapists.

Abstract

Background: The critical role of phonetic transcription in the assessment, diagnosis and management of speech disorders is well established and thus pre-registration degrees dedicate numerous hours to phonetic training. However, this training is not always fully utilised in clinical work and clinicians may find it difficult to maintain their skills, suggesting a 'theory/practice gap'.

Aims: This paper surveys speech-and-language therapists' views of their training, practice and maintenance of transcription in order to investigate the posited theory/practice gap and to explore how education in phonetics is translated into practice.

Methods & Procedure: Seven hundred and fifty nine speech-and-language therapists from the United Kingdom were surveyed via an online questionnaire. Multiple-choice questions were analysed using descriptive statistics, and free text comments were analysed thematically.

Outcomes and Results: Thirty-five percent of SLTs found learning phonetics quite easy, and 30% quite difficult. Respondents suggested that more time was needed to practise transcription in and out of the classroom, nevertheless the majority felt at least equipped to undertake transcription after their training. 75% of SLTs require transcription for their role, with 61% using it often or all the time. 45% use a mix of broad and narrow transcription, with 41% using only broad transcription. Those not using narrow transcription attributed this to a lack of confidence. 57% of SLTs did not feel supported to maintain transcription skills in the workplace and 80% had never attended a refresher course in transcription, with 75% wishing to do so.

Conclusions and Implications: As many clinicians found it difficult to learn transcription, there is an opportunity to provide more transcription practice both in

and beyond the classroom. Despite most clinicians feeling equipped to undertake transcription upon completion of their training, and a large majority requiring transcription for their role, a theory/practice gap is apparent in the relatively small number of clinicians using narrow transcription exclusively, and those not using it expressing a lack of confidence in their skills. Additionally, as many clinicians have never attended refresher training in transcription, and rely on their course notes to maintain their skills, more provision of opportunities for revision should be made available. With clinicians remembering a need for more practice during their training, and expressing a desire for more training opportunities in practice there is an opportunity for clinicians, educators and regulatory bodies to work together to provide packages of transcription training material that can be used by students and practitioners to maintain and extend their skills.

What is known about the subject?

Research has established the importance of learning phonetic transcription for the practice of speech and language therapy, yet this training is not fully utilised in clinical practice, suggesting a theory/practice gap. The reasons for this postulated gap have not been explored by previous research. Teaching methods in phonetic transcription and the benefits and challenges of using different types of transcription have similarly been explored, but research involving the opinions of practising therapists is scarce.

What this study adds?

By gathering information from a large sample of practising therapists, this paper explores therapists' views of their phonetics learning experiences and their use and maintenance of transcription in clinical practice. Through these findings, recommendations are made for the training and support of phonetic transcription skills.

Clinical Implications of this study

Clinicians express a desire for more transcription refresher opportunities in clinic, and more transcription practice opportunities during their training. There is an opportunity for clinicians, educators and regulatory bodies to work together to provide such opportunities, so that the benefits of transcription can be maximised in practice.

Introduction

Since part of speech-and-language therapists' roles is "to identify the nature of the delay/disorder by assessing the pattern of articulation and phonological template' (Royal College of Speech and Language Therapists, RCSLT, 2009, p.7), knowledge of the International Phonetic Alphabet (IPA; International Phonetic Association, 1999) and how to transcribe speech is crucial. The process of transcription is used to establish the extent and nature of a developmental or acquired speech sound disorder, and provide differential diagnosis, thereby informing therapy and contributing to the measurement of change and the effectiveness of therapy (Child Speech Disorder Research Network, 2017). As transcription dictates diagnosis and treatment, inaccurate transcriptions can have important effects on clinical management (Powell, 2001). Therefore, it is critical that transcription is conducted accurately and reliably (Ball & Rahilly, 2002).

Clearly, the ability to transcribe accurately begins in the training SLTs receive as students, and a small number of studies have explored phonetics training in progress. For example, Crookston (1999) reports that transcription is unpopular with many SLT students who may be attracted to the course for the communicative qualities they possess, rather than for their linguistic awareness skills and who therefore find transcription challenging. Particular challenges relate to disregarding normal spelling patterns (Small, 2005) focusing instead on sounds produced (Garn-Nunn & Lynn, 2004) and concentrating on small linguistic units of which students

were previously unaware (Padgitt, Carney & Munson, 2006).

Many studies have also observed a range of phonetic abilities in students, and sought to explore the underlying factors relating to phonetic ability. For example, Knight and Maguire (2011) suggested that students with poorer verbal short term memory may find transcription more challenging. In addition, Mackenzie Beck (2003) demonstrated that music and phonetic aptitude tests can predict the later phonetics performance of SLT students. However, neither were completely successful at predicting performance after two years of phonetics training, suggesting that 'phonetics teaching can eventually compensate for lack of initial aptitude' (p.2835).

Aside from formal training in phonetics classrooms, other studies have explored how transcription develops through students' clinical placement experiences (Munson, Johnson & Edwards, 2012). Wolfe, Martin, Borton & Youngblood (2003) demonstrated that SLT students with clinical experience of transcription were better at identifying whether a sound was closer to a canonical /r/ or /w/ than SLT students without such experience. However, to the authors' knowledge, no study to date has investigated practicing clinicians' views of the training they received, or which factors they felt helped or hindered in their learning of phonetics.

Similarly, literature on the uses and maintenance of transcription in clinical practice is relatively scarce. Skwarcewicz (2014) found that the majority of SLTs working in paediatrics used transcription during screening assessments, with their caseloads being composed mostly of children with phonological and articulation difficulties. In terms of how well skills are maintained after training, the literature that does exist is somewhat contradictory. Crookston (1999) found that the majority of newly qualified

clinicians retained their abilities after graduation, and furthermore, Munson et al. (2012) indicate that clinicians' skills continue to develop after graduation. Indeed, Skwarcewicz's (2014) survey noted that confidence in transcription increases with the amount of practice undertaken rather than number of years of experience. However, Windsor (2011) reports that practising SLTs only use a subset of the skills they learnt as students, and Martin & Lindsey (1999) found the majority of SLTs felt undercompetent in their transcription skills, which may be why these skills are underemployed.

Furthermore there are several indications that clinicians do not use narrow transcription, despite many studies positing its benefits due to the maximum transcription of phonetic detail (Amorosa, von Benda, Wagner & Keck,1985; Howard,1994, Ball,Müller, Klopfenstein, & Rutter, B. 2009, but cf. Maassen et al.,1996 for a contrary view). Luoko & Edwards (2001) reported that many practising SLTs do not use narrow transcription and are unaware of its benefits, whilst Windsor (2011) noted few clinicians using narrow transcription, seemingly due to pressures of time, feelings of under confidence, and questions over narrow transcription's utility. Windsor follows Haigh (2009) for nursing disciplines by positing a theory/practice gap between the theory taught at university and the realities of clinical practice. However, as students, rather than staff were surveyed, the true picture of clinicians' use of (different types of) transcription, and the reasons behind their choices are unclear.

Thus, from the literature it remains unclear how often different types of transcription are used by SLTs, for what purposes, how confident and competent clinicians feel, and how they seek to maintain their skills. There is limited research regarding transcription in practice, and very few studies have questioned clinicians themselves

regarding their experiences of training in, or use and maintenance of transcription. No research has examined the use of transcription with caseloads other than paediatrics, and the ways in which clinicians seek to maintain their transcription skills has not been explored.

Thus, this paper aims to fill these gaps in the literature by asking SLTs about their training, use and maintenance of phonetic transcription, and to discuss the implications of these findings on the teaching and clinical practice of transcription.

Method

A questionnaire consisting of 28 closed multiple-choice questions was designed based on the aims of the project and previous research, as shown in Appendix 1. After obtaining consent (questions 1 and 2), information about each respondent's training, clinical experience and job specifications (demographic information) were collected in the first section of the questionnaire (10 questions, 3-12). This was followed by sections concerning previous phonetic training (6 questions, 13-18), current use of phonetic transcription (5 questions, 19-23) and maintenance of phonetic transcription skills (5 questions, 24-28). Optional open-response questions were also included to provide more specific qualitative information for 8 of these questions.

The questionnaire was open to all SLTs in the UK who were members of the Royal College of Speech and Language Therapists (RCSLT) and registered with the Health and Care Professions Council (HCPC), regardless of age or gender. After gaining ethical approval, and informally piloting the survey with colleagues, SLTs were invited to participate through social media, university alumni lists, and relevant clinical

excellence networks. The questionnaire was distributed online using the website SurveyMonkey and was kept open for 12 weeks.

For the closed questions, descriptive statistics were calculated to express the proportions of the sample answering with each option. For the open questions, responses were coded using content analysis (Graneheim and Lundman 2004). After immersion in the data, initial codes were generated separately for each open question. These codes were then reviewed, and categories developed. All responses were coded and checked twice ensuring correct codes had been assigned. Reliability was further ensured by asking an SLT not involved in the project to check the raw data against the coded data and assess whether correct codes had been allocated. In this process 10 data points were identified as potentially being incorrect. These were double checked and subsequently all 10 data points were assigned the correct codes.

Results

The questionnaire received responses from 831 SLTs. Twenty-three of these declined to have their information used in a secondary data analysis and 49 questionnaires were considered incomplete as five or more questions in a row were left unanswered. These were not included in the analysis, resulting in responses from 759 SLTs being analysed.

In what follows, the number of responses for a single option, out of the total number of responses for a question, is given in brackets for each result described. Since participants could pick multiple responses for some questions, the total number of responses is sometimes larger than the sample size. Conversely, not all questions

were answered by all participants, so the total number of responses is sometimes less than the sample size. Due to the large amount of data, themes derived from free-text responses are only included if they were mentioned by more than 10 participants.

Demographic information (questions 3-12)

On average, participants had completed their SLT training 13 years previously and had an average of 12 years of clinical experience (rounded up to the nearest year). Of these SLTs, 41.8% worked part time (317/759) and 58.1% worked full time (441/759). Those working part time worked, on average, 23.5 hours a week. Band 6 was the most common band (246/774, 31.9%), and the majority of SLTs worked with children (60.8%, 460/757) with 4-7 years being the most frequent age range of those children (474/2121, 22.3%). Of those SLTs working with adults, traumatic brain injury was the most common client group worked with (170/578, 29.4%). The National Health Service was the most common employer (630/891, 70.7%), and clinics (357/1643, 21.7%) and mainstream schools (354/1643, 21.5%) were the most frequent place of work. Five hundred and forty-nine SLTs had a specialism, the most frequent of which was specific language impairment (for which the preferred term is now Developmental Language Disorder (Bishop et al, 2017)).

Phonetic transcription training (questions 13-18)

This section of the questionnaire explored SLTs' experiences of learning phonetics. Firstly, participants indicated their previous experience with phonetics, in years, prior

to their SLT training. A large majority (66.8%, 507/759) of SLTs indicated no such experience.

The number of university terms (periods of 10 to 12 weeks of teaching) in which phonetic transcription was studied was varied, with answers ranging from 1 to more than 6 terms. The most common responses were from 133 out of 571 (23.3%) SLTs who studied transcription for three terms and 122 out of 571 (21.3%) SLTs who had studied transcription for six terms. Most SLTs (201/757, 26.6%) had more than three placements where they had the opportunity to carry out transcription, with two placements being the next most frequent response (181/757, 23.9%) and very few having no such placement opportunities (34/757, 4.5%).

Figure 1 about here

Participants indicated how easy they had found it to learn transcription. As shown in Figure 1, responses for the ease of learning transcription varied from very easy to very difficult. The most common responses were for 35.4% (268/758) who found learning transcription “quite easy” and 30.1% (228/758) who found it “quite difficult.”

Participants were asked to give reasons for their answer by means of free-text response. For those who found it easy (including very and quite easy) the most frequently given reason (83/323, 25.7%) related to general characteristics of a teacher, for example “I had a great tutor who was very supportive” and “enthusiastic teacher who offered a lot of support”. Additional major factors included enjoying the subject (53/323,16.4%, for example “I love phonetics,” and “I was fascinated!”), and having previous knowledge of phonetics (50/323, 15.5%); for example, “I had already completed an undergraduate degree in Linguistics and had undertaken a module in

phonetic transcription, so it was reasonably familiar". Other responses included good teaching methods (37, 11.5%), doing a lot of practice (36, 11.2%), and having good listening skills (20, 6.2%).

Of those who found learning transcription difficult (including very and quite difficult), 47 out of 237 respondents (19.8%) attributed this difficulty to the content of the subject. For example, one respondent found it difficult to "both hear and identify where the sounds are produced in the mouth", and others commented it was difficult "to remember all the phonemic symbols- particularly the correct vowels," and "I found the in depth levels using diacritics and stress very challenging"

Other frequent reasons for why learning transcription had been difficult included poor teaching methods (22/237, 9.3%) for example, "very poorly taught with too much emphasis on esoteric and irrelevant theory," and "no clear clinical links made during training." Some described the difficulties of having an accent that differed from the cohort, which hindered learning (25/237, 10.5%), for example "the majority of those on the course had similar accents and therefore length of vowels etc. so [there were] slight changes/difficulties due to accent differences". Other frequently identified themes related to the need for more practice (19, 8.0%), and the challenge of a new subject (18, 7.6%).

SLTs were also asked to provide free text comments about what would have made learning transcription easier. Suggestions included, more practice in class (71/290, 24.5%) for example, "more opportunities to practice transcription of disordered speech," and more opportunities to conduct transcription outside university (67/290,

23.1%) for example, “more real life practice with people/patients rather than studying theory”. Other comments related to teachers (22/290, 7.6%) such as “a different tutor”, more opportunities for listening to audio and video samples (18, 6.2%), smaller classes (18, 6.2%), factors relating to personal difficulties (15, 5.2%), and more time (15, 5.2%).

Despite a significant number of SLTs reporting finding learning transcription difficult Figure 2 shows that no SLT reported feeling “not at all equipped” to carry out transcription at the end of their training and 43.3% (326/753) reported feeling “equipped.” From the distribution it can be seen that the majority of SLTs felt either “equipped” or “very well/well equipped”, with far fewer SLTs in comparison feeling “not very well equipped.”

Figure 2 about here

SLTs’ current use of phonetic transcription (questions 19-23)

This section focused on the purposes and types of transcription used in practice. Five hundred and sixty-seven SLTs (74.9%, 567/757) reported that transcription is required for their current role, with 31.3%(177/565) reporting using transcription “often” and 30.1% (170/565) “all the time.”

The reasons given by SLTs for using transcription “all the time,” “often,” “sometimes,” “very little” and “not at all,” were explored via free-text comments. The most frequent reason for using transcription “all the time” or “often” was attributed to using it with

clients with speech sound disorders (60/219, 27.4%), or when working with clients with Cleft Lip and Palate or Velopharyngeal Dysfunction (both 12, 5.5%) for example, “I see children with delayed and disordered speech patterns and so transcribe during at least one therapy session during my working day”. In 33 (15.1%) cases the reason for use was for speech assessment and diagnosis.

SLTs who used transcription “very little” or “not at all” attributed this to having caseloads for which phonetic transcription was not relevant (7/65, 10.8%), for example, “only required for limited number of patients,” “not applicable for many patients,” and “Not applicable to patients on caseload and goals set.”

Figure 3 about here

The reasons for using transcription, as demonstrated by Figure 3, were fairly evenly distributed between assessment, diagnosis, intervention and re-assessment. However, the most frequent reason for using transcription was for assessment (555/1851, 30%). SLTs were asked with which client groups they used transcription. Out of 35 coded responses for the possible clients with whom transcription was used, the majority was speech difficulties (155/593 responses, 26.1%) for example, “Any [clients] with speech sound difficulties,” and “all clients who mispronounce any words due to a speech delay or disorder.”

Figure 4 about here

As seen in Figure, 4 most SLTs reported using a mixture of broad and narrow transcription (45.4%, 284/625). Broad transcription was reported to be used almost

as frequently as both types (40.6%, 254/625), 3.4% reported using narrow transcription exclusively (21/625) and 10.6% used neither (66/625).

The reasons for SLT's usage of particular types of transcription were explored in free-text comments. The most frequent reason for using broad transcription was because SLTs find it to be sufficient for their purposes (44/293 responses, 15%) for example, "I use broad transcription as I find it meets my needs, I rarely encounter clients with very disordered speech," and "I don't tend to have many clients that have complex enough speech errors for narrow transcription". Other frequent responses included time constraints (29, 9.9%), for use with more simple speech difficulties (27, 9.2%), and for assessments (26, 8.9%).

Reasons for using narrow transcription were to provide more detail in reporting disordered speech (58/376 responses, 15.4%) for example, "I use narrow transcription to give detail that is essential to assessment and intervention," and "I will use narrow transcription when I feel it is necessary, i.e. if the client had particularly disordered speech and I wanted a more detailed analysis." Other frequent reasons for using narrow transcription related to the client group: cleft palate (31, 8.2%), disordered speech (31, 8.2%), unusual errors (26, 6.9%), complex cases (20, 5.3%), articulation (17, 4.5%) and hearing impairment (17, 4.5%).

When giving their reasons for their choice of transcription type, SLTs frequently associated narrow transcription with the use of diacritics, and this was mentioned as frequently as the need for narrow transcription to give more detail (58 out of 376 comments on using narrow transcription, 14.6%) for example, "I tend to use the

diacritics to indicate nasality issues or voicing error." Almost as frequently, SLTs mentioned using strategies (51/376 responses, 13.6%) that deviated from transcription for example, "Tend to write explanations rather than use narrow transcription - e.g.? Palatal."

The most frequent reason participants gave for not using narrow transcription was a lack of confidence in their own skills (94/169 responses, 55.6%) for example, "I am rusty on narrow transcription," and "I do not feel skilled enough with narrow transcription." Other frequent responses were that participants had forgotten how to transcribe narrowly (48, 28.4%) or found it not to be relevant in their role (21, 12.4%).

A further question asked what participants do if they do not transcribe when they work with a client with very disordered speech. Most SLTs (15/48, 31.2%) reported that they describe their client's speech, for example, "if I can't remember the symbol I usually describe the sound (voice place manner etc)," and "In patients where I do not transcribe at all I will often just describe what I am hearing in general terms."

Maintenance of phonetic transcription skills (questions 24-28)

This section of the questionnaire explored how SLTs seek to maintain their transcription skills. A significant number of SLTs, 79.5% (597/751), had never attended in-service or refresher courses in phonetics. Those who had done so, frequently reported this as being an isolated incident (70.9%, 105/148). However, 74.4% (548/737) of SLTs expressed interest in attending further training courses in transcription.

When asked what methods they used to maintain phonetic transcription skills, SLTs frequently reported revising material from their SLT course (296/994, 29.8%). Many SLTs also indicated that they used methods in addition to those provided in the multiple choice options. The most frequent 'other' method was SLTs' own practice and revision techniques apart from reading old course notes (85/232 responses, 36.6%) for example "writing a phonetic shopping list/transcribing a song etc." Other methods included peer support (54, 23.3%), work-related practice (38, 16.4%), and in-house training (20, 8.6%).

Over half (56.5%, 312/717) of SLTs stated that they did not feel supported in the workplace to maintain their transcription skills. When asked for suggestions to remedy this, the most frequent suggestion was for workplaces to provide more in-house training opportunities or refresher courses specifically targeted at transcription (63/244, 25.8%), for example, "refresher courses, in house training," and "include practice in our meetings,". The second most frequent suggestion was to have more peer support within the workplace (34/244, 13.9%) for example, "working more alongside colleagues rather than lone working," and "to practice and seek advice from others who are more skilled." Other comments related to working independently (15, 6.1%) and the barriers this can create for peer-support opportunities.

Discussion

The aim of this project was to investigate learning experiences, and use and maintenance of phonetic transcription for SLTs in the United Kingdom, through a

questionnaire incorporating open and closed questions. Responses from 759 SLTs were analysed using descriptive statistics and qualitative analysis.

SLTs' learning experiences

Most SLTs reported finding learning transcription had been either "quite easy" or "quite difficult." This supports the current literature, which also reflects a divide in SLTs' responses to learning transcription (Munson et al., 2012, Urberg-Carlson et al., 2009). Having a "good teacher" was the most frequent reason given for finding learning easier, however, it is undetermined what is meant by "good" and comments by SLTs did not elaborate on the characteristics that define a "good teacher." Whilst there is a wealth of literature on teaching excellence in general (e.g. Gunn and Fisk, 2013, Madriaga & Morley 2016) there is no agreed definition, and Taylor (2007) and McPhee et al, 2005, (cited in Moore and Kuol, 2007) note that certain disciplines may require a different set of competencies which a more general model may not provide. Ongoing work by Parker and Knight (2017) has investigated teaching excellence in the health sciences more broadly and identified 'teaching style and skills', as the most frequent theme from comments students make in regards to teaching excellence. This is a surprising finding since the general teaching excellence literature reports that students are more likely to value their teacher's personal attributes over their actions (Moore and Kuol, 2007) as well as prioritising the teacher-student relationship over the more technical skills of their teacher (McMillan, 2007; Parker, 2014). Thus, future research into teaching excellence in phonetics specifically may be a fruitful area for research.

Difficulties with learning transcription were frequently attributed to the content of the course, which presents a challenge to learning, as it requires skills that are entirely

new to students, such as linguistic awareness (Crookston, 1999), ignoring normal spelling rules (Small, 2005), concentrating on small phonemic units, and the ability to overcome the natural tendency towards categorical perception of non-native sounds (Padgitt et al., 2006). The most frequent suggestion given by SLTs to improve learning transcription was to provide more practical opportunities to practise. Howard and Heselwood (2002, 376) consider opportunities for practice of clinical phonetic transcription and note "Students will need practice with normal speech production (including an appropriate range of sociophonetic variation), normally developing speech, and a wide range of developmental and acquired data from individuals with atypical speech production". As programmes tend to consist of a great deal of face-to-face learning hours one suggestion, in line with Heslewood (2007) is to incorporate transcription into other relevant modules and placement experiences, in order to make the best use of time, show the links between phonetics and clinical practice, and provide genuine practice opportunities with clinical data. Providing such opportunities on-line to be used by trainee and practicing clinicians may also be a fruitful area of development.

Current practice of phonetic transcription

A large majority of SLTs (74.9%) reported that transcription was required for their current role, with a significant number (347/565) stating they use it either "often" or "all the time," supporting previously discussed literature regarding the need and critical role of transcription in clinical practice (Kent, 1996, Powel, 2001). Similarly to Skwarcewicz's (2014) findings, the most common reason for the use of transcription

was for assessment and for clients with speech difficulties. Those who used transcription “very little” and “not at all” attributed this to having caseloads for which it was not relevant, thus indicating that there are areas of SLT which may require very little transcription. Whilst this was true mainly for adult caseloads, there are of course many adult specialists (such as those working with dysarthria or apraxia of speech) for whom transcription is crucial. Although it could be argued that transcription training should be reserved for those who will later work directly with speech, the Health and Care Professions Council Standards of Proficiency for Speech and Language Therapists (2014, p.14) require that all SLTs be able to “use knowledge of speech and language therapy to assess and work with […] acquired speech and language impairments [… and] developmental speech and language impairments, which will require use of transcription”. As SLTs can work with a variety of client groups across their careers, transcription training is desirable for all.

While literature has supported the use of narrow over broad transcription for more accurate diagnosis and goal-oriented therapy (e.g. Wells, 1947, Howard and Heselwood, 2002), only 21 SLTs in the current sample reported exclusively using narrow transcription, reflecting Luoko and Edwards’ (2001), and Windsor’s (2011) findings that very few SLTs use narrow transcription exclusively and frequently, and supporting the notion of a theory/practice gap, such as those identified in other professions (e.g. Haigh, 2009). Those who did report using narrow transcription mainly worked in specialized areas, and did so to capture fine detail (Kelly and Local, 1989).

Those who used broad transcription said they found it sufficient for their needs, as their caseload did not require the high level of detail reflected by narrow transcription. SLTs' responses did not reflect knowledge of the pitfalls of using broad transcription described in the literature (Ball and Kent, 1997), rather most reported they did not use narrow transcription due to lack of time and because they felt under-confident. This result supports Howard and Heselwood's (2002) findings, yet challenges Crookston's (1999) data that SLTs retain what they learn at university. Most of the SLTs in this study appear to follow the approach described by Maassen et al. (1996), using narrow transcription when necessary, and thus reported using a mixture of the two transcription types. However, what SLTs described as narrow transcription in this context was largely the addition of diacritics, and other comments indicated that the broad transcription most SLTs said they used was adapted with various personal strategies, all of which deviated from traditional transcription, for example writing descriptions rather than using IPA symbols. Thus, it was also not entirely clear from the responses how clinicians personally defined broad and narrow transcription, and our brief definition in relation to this question may not have been sufficient to accurately define the two types. Whether a mixed broad, narrow and descriptive transcription is sufficient to effectively diagnose and manage clients is beyond the scope of the current study and could be a fruitful area for future research.

Maintenance of transcription skills

Support for maintenance of transcription skills was poor within the sample with over half of SLTs (56.5%, 312/717) stating that they did not feel supported to maintain, transcription practice in their workplace, and a large majority having never attended a refresher course (79.5%, 597/751), with those who had attended reporting it as an

isolated incident. SLTs' own methods of maintaining their skills were through revision of their old university notes, with most SLTs expressing interest in attending a refresher course if it were available. Research supports this suggestion, positing that increased practice post-qualification improves transcription accuracy (Kent, 1996). Therefore, it would be worthwhile for the community to consider introducing a standard transcription maintenance scheme to increase opportunities for transcription practice and feedback. Such training courses could be cost-effective methods involving peer support sessions (a suggestion made by the current sample) where data can be transcribed and the resulting transcription discussed among colleagues, as any practice increases transcription proficiency and therefore transcription use (Munson et al., 2012). As an alternative, or addition, advantage could be taken of technological solutions, to provide pseudo-clinical or clinical data, with appropriate ethical permissions, for transcription by SLTs across the UK and beyond. Such a solution could also be used by trainee clinicians to meet their requests for additional practice opportunities. Following Haigh (2009. p.2), designing such training courses with "collegial collaboration" between educators, clinicians and regulatory bodies is an opportunity to narrow the gap between theory and practice in transcription.

Limitations

Due to the sampling methods, it is possible that only those SLTs with an interest and strong opinions about transcription took part. This could risk wrongly estimating the proportion of clinicians who use transcription as part of their role. However, the survey clearly did attract some clinicians who do not use transcription, including those who do not transcribe, or only use certain types of transcription due to a lack of confidence. An additional limitation relates to asking clinicians to remember their experiences of learning transcription, which in most cases took place more than 13

years previously. Nevertheless, there is value in asking those who have had experience of using this skill in practice to reflect on their educational experiences, and the results seem to support other studies, in showing a divide between students in their learning experiences.

Future directions

As this study has revealed differences in the number of terms in which students study transcription and have opportunities to practice transcription on clinical placement, it may be fruitful to survey programmes across the UK, to gather detailed information about the content, timing and methods of teaching transcription. A longitudinal study following students from different programmes into clinical practice could then identify the types of training that lead to greater use of and confidence in transcription, and may help to remove some of the issues from this study related to SLTs being required to self-select, and then remember their training from many years ago.

Relatedly, given SLTs' focus on the contribution of their teachers to their ease of learning phonetics, future work should identify what 'good teaching' refers to in this particular discipline, via surveys, interviews or focus groups with students across institutions. Furthermore, other aspects of training that are specific to SLT, such as linguistic analysis, could also be investigated.

The clearest suggestion arising from the data is to provide more opportunities for transcription practice, both for students and practising SLTs. A standard package of provision, delivered either in-house or on line, would allow for evaluation of the subsequent use of and confidence in phonetic transcription, and act as an opportunity to narrow the theory/practice gap.

Appendix 1 – Survey questions

1. Would you be willing for us to quote statements you write in the free text boxes anonymously in written articles?
Yes
No

2. Would you be happy for your data to be made available anonymously to other researchers at a later date or for longitudinal research?
Yes
No

3. How many years is it since you completed your speech and language therapy training? Please round up/down to the nearest year (e.g. 3 years 5 months = 3 years; 3 years 6 months = 4 years).

4. Approximately how many years of clinical experience do you have? Please round up/down to the nearest year (e.g. 3 years 5 months = 3 years; 3 years 6 months = 4 years).

5. Do you work full or part time?
Full time
Part time
If part-time, how many hours a week do you work?

6. What band are you?
5
6
7
8a
8b
Independent
Other (please specify):

7. Do you work with adults (18 years and older) or children (17 years and younger)?
Adults
Children
Both

8. If you work with children, which age ranges do you work with? Please tick all that apply.
Infants (< 2 years)
Preschool (2–4 years)
Junior primary school (4–7 years)
Senior primary school (8–11 years)
Secondary school (11–16 years)
Post-16 (17–18 years)

9. If you work with adults, which client groups do you work with? Please tick all that apply.
Stroke/Traumatic Brain Injury
Progressive Neurological Disease
Hearing Impairment

Learning Disabilities
ENT/Voice
Other (please specify):

10. Who employs you? Please tick all that apply.

NHS
Local Authority
State or Private School
Private Practice
University
Other (please specify):

11. Places of work (please tick all that apply).

Clinic
Mainstream School
Special School
Language Unit/Resource Base
Hospital (General)
Hospital (Specialist)
University
Own Home
Other (please specify):

12. Do you have an area of specialism or interest?

Yes
No
If you have an area of specialism, what is it?

****13. 8. How many previous years of phonetic transcription experience did you have which you could draw upon in your speech and language therapy training? Please round up/down to the nearest year (e.g. 1 year 5 months = 1 year; 1 year 6 months = 2 years)***

0
1
2
More than 2
I can't remember

14. For approximately how many university terms did you study phonetic transcription during your speech and language therapy course?

0
1
2
3
4
5
6
More than 6
I can't remember

15. How easy did you find it to learn phonetic transcription on your course?

Very easy
Easy
Quite easy
Quite difficult
Difficult
Very difficult
What factors, if any, influenced this?

16. If you found it difficult, what would have made it easier?

17. On how many placements did you have the opportunity to carry out phonetic transcription during your training?

0

1
2
3
More than 3
I can't remember

18. At the end of your speech and language therapy training, how well equipped did you feel to carry out phonetic transcription of disordered speech?

Very well equipped
Well equipped
Equipped
Not very well equipped
Not at all equipped

19. Is phonetic transcription required for your current role?

Yes
No

20. If yes, how often do you use it?

All the time
Often
Sometimes
Very little
Not at all
Not required for current role
What is the reason for this?

21. If you use phonetic transcription in your practice, for what do you use it? Tick all that apply

Assessment
Diagnosis
Intervention
Re-assessment
Which clients do you use it with?

22. Do you use broad or narrow transcription, both or neither? Broad transcription allocates one symbol to each phoneme and is placed between slant brackets / /, whereas narrow transcription shows articulatory detail, for example using a diacritic such as devoicing, and is placed between square brackets .

Broad
Narrow
Both
Neither
Can you explain when and why you use or do not use broad transcription and/or narrow transcription?

23. If you do not transcribe, what do you do when you encounter a client with very disordered speech?

24. Have you attended any in-service training/refresher courses in phonetics?

Yes
No

25. If yes, how regular has your in-house training been?

Quarterly
Yearly
One-off
Other
If other, please specify:

26. Would you be interested in attending any (further) such in-service training/refresher courses if these were available?
Yes
No
27. Have you sought to maintain your phonetic transcription skills in any other way? Please tick all that apply.
External courses
SIG
Revising material from SLT course
Internet
Other
I have not sought to maintain my phonetic transcription skills
If other, please specify:
28. Do you feel supported in your workplace to maintain your transcription skills?
Yes
No
Not applicable as phonetic transcription is not required for my current role
If not, and phonetic transcription is required for your current role, what changes could be implemented in your workplace to help with this?
Yes
No

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Figure 1: How easy SLTs found studying phonetic transcription (question 15)

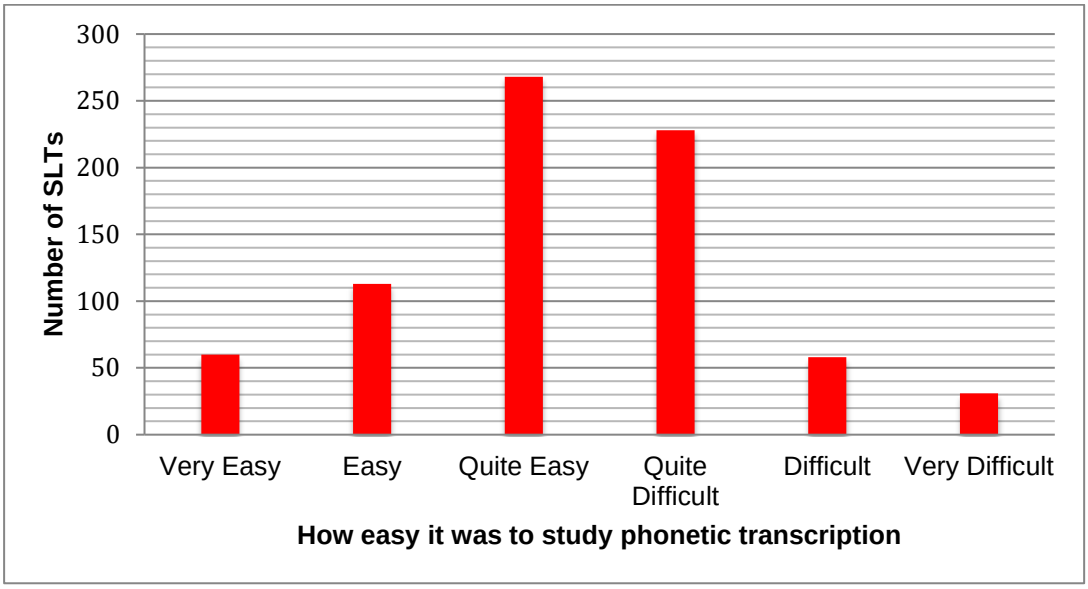

Figure 2: How equipped SLTs felt to carry out phonetic transcription at the end of their training (question 18)

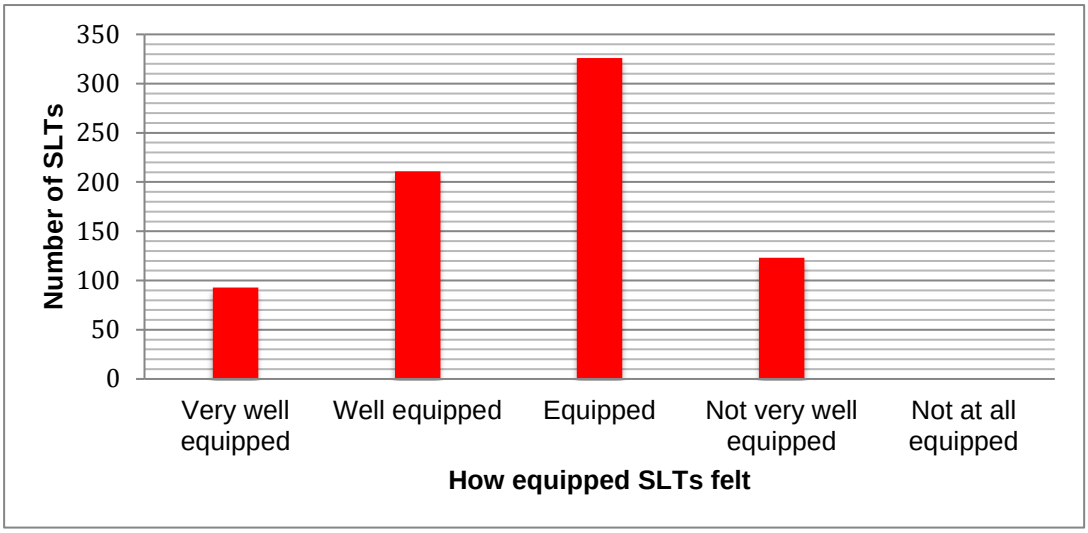

Figure 3: SLTs' purpose of using phonetic transcription (question 21)

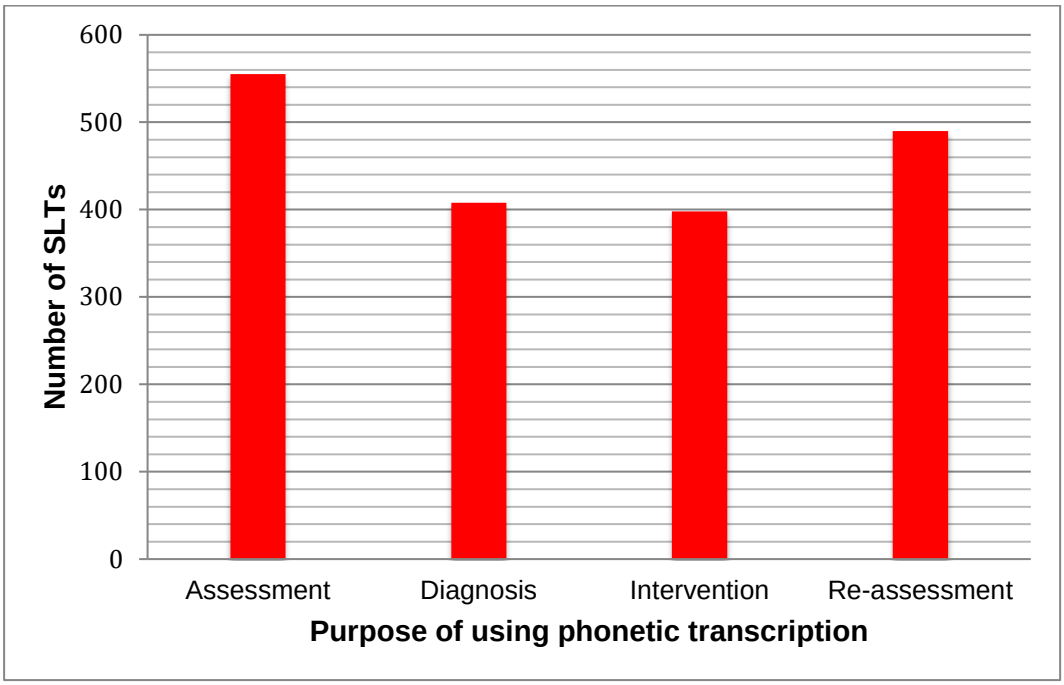

Figure 4: Types of transcription used by SLTs (question 22)